

Notice of Allowability

Application No.

10/658,378

Examiner

Tuan Quach

Applicant(s)

NAKAYAMA ET AL.

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to _____.
2. ☒ The allowed claim(s) is/are 1-16.
3. ☒ The drawings filed on 10 September 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 9/10/03
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


Tuan Quach
Primary Examiner

REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance:

Claims 1-16 are allowed primarily because the prior art do not teach or suggest the claimed limitations in these claims particularly with regard to the claimed obverse surface and sides including slanting edges or beveled sides as characterized in claims 1-6, 7, 8; or with regard to the claimed obverse surface and sides including the characters written in normal or reverse posture on the obverse surface as characterized in claims 9-16.

The prior art cited by applicant in the PTO-1449 include the following. 2-144908 teaches forming a device by clarifying the distinction of the surface and rear of a substrate by beveling the surface and rear of a wafer at different angles. 60-167426 teaches determination of a crystal orientation in a wafer face by positioning a mechanically processed portion such as a groove. 2000-331898 teaches making the front and back surfaces of a wafer easily identifiable by employing a notched semiconductor wafer wherein one end of the periphery of the wafer is notched in (010) direction. 58-071616 teaches making asymmetric obverse and reverse sides of a wafer by roughening or chamfering one side. 08-316112 teaches a semiconductor with notch to discriminate the front and rear of a wafer by suppressing the effective area decrease of a wafer due to the formation of an orientation and employing a V-shaped notch at the outer periphery of the wafer for discriminating crystalline orientations. 2002356398 teaches a circular wafer of a hexagonal system doped with oxygen wherein the periphery of the wafer may be corner-chamfered both from the front and back

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side at an inclination angle. 2002-222746 teaches providing a nitride semiconductor wafer wherein the plane direction can be discriminated easily including a GaN substrate having a main surface composed of (0001) face having a orientation flat used for discriminating the $\langle 1-100 \rangle$ equivalent of the substrate. The prior art made of record in the Notice of References Cited include the following. Yamaguchi et al. 4,630,093 teach a semiconductor wafer having asymmetric peripheral edge with regard to a middle plan to denote the front surface and other asymmetry including an orientation flat. Asano et al. 2003/0013240 teach projecting individual chip patterns onto a (100) surface of a GaAs wafer so that the columns and rows of the chip patterns are aligned in a slanting direction. Kurita et al. 2004/0113236 teach a semiconductor wafer having a periphery thereof chamfered including an inclined surface with respect to a main surface. Toba et al. 2004/0242001 teach a notched semiconductor wafer having the same specification even if it is turned over including slicing the crystal being tilted as specified with corresponding notches. The prior art of record do not teach the claimed limitations delineated above.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Quach whose telephone number (571) 272-1717. The examiner can normally be reached on M - F from 8 to 4.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Wael Fahmy can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1562.

January 18, 2005

A handwritten signature in black ink, appearing to read 'T. Quach' with a stylized flourish at the end.

Tuan Quach
Primary Examiner